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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,411	03/30/2004	Siegfried Schwarzl	543822004700	1274
25227	7590	06/12/2006		
MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 300 MCLEAN, VA 22102				
			EXAMINER MOORE, KARLA A	
			ART UNIT 1763	PAPER NUMBER

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/812,411

Applicant(s)

SCHWARZL ET AL.

Examiner

Karla Moore

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 8-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 8-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3 April 2006.
2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

3. The abstract of the disclosure is objected to because it is too long. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

5. Claim 4 objected to because of the following informalities: the claim contains an acronym for "extreme ultraviolet". In order to more clearly describe the invention, the entire phrase should be written out. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,559,584 to Miyagi et al.

9. Miyagi et al. disclose a lithography system for processing a substrate substantially as claimed and comprising: a mask chamber (Figure 1, 1) isolated from the rest of the lithography system (column 3, rows 23-24; column 5, rows 22-25 and 30-38; and column 6, rows 44-51); a gas supply line (column 5, rows 51-55) adapted to provide inert gas to the mask chamber; and a vacuum pump (column 5, rows 51-55) adapted to evacuate the mask chamber.

Art Unit: 1763

10. However, although Miyagi et al. do disclose isolation of the mask chamber, one or more vacuum valves for isolating the mask chamber are not explicitly disclosed.

11. Elsewhere in the disclosure Miyagi et al. disclose the use of vacuum valves for the purpose of maintaining isolation between separate vacuum environments (column 4, rows 1-31 and column 8, rows 1-18).

12. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided vacuum valves in Miyagi et al. in order to maintain isolation between adjacent independently evacuable regions as taught by Miyagi et al.

13. With respect to claim 2, one or more of the vacuum valves are capable of being closed to isolate the mask chamber from the rest of the lithography system before venting the mask chamber with the inert gas provided by the gas supply line. Examiner notes that the courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

14. With respect to claim 3, the inert gas may be nitrogen. However, Examiner notes that the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

15. With respect to claim 4, Miyagi et al. teach that the system can be effectively used at other wavelengths, for example extreme ultraviolet (column 7, rows 47-54).

16. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi et al. as applied to claims 4-7 above, and further in view of U.S. Patent 6,169,652 Klebanoff and Japanese Patent No. 02-256256 A to Yoshida et al.

17. Miyagi et al. disclose the invention substantially as claimed and as described above.

Art Unit: 1763

18. However, Miyagi et al. do not disclose the use of an electrostatic chuck in the above system in combination with it being used in a EUV system.

19. Klebanoff teaches that electrostatic chucks are extremely useful in EUV systems (and other lithography systems) for the purpose of combining the advantages of the more uniform clamping ability of vacuum chucks and the usability in vacuum environments of mechanical chucks.

20. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an electrostatic chuck in combination with an EUV system in Miyagi et al. in order to combine the advantages of the more uniform clamping ability of vacuum chucks and the usability in vacuum environments of mechanical chucks as taught by Klebanoff.

21. Miyagi et al. and Yoshida et al. disclose the invention substantially as claimed and as described above. They further teach a chuck (RT) mounted in the mask chamber for holding a reticle. See Figure 5 of Miyagi et al.

22. However, Miyagi et al. and Yoshida et al. fail to teach the chuck comprising a contact surface for holding a back surface of the reticle; and a plurality of openings in the chuck, each opening having a first end and a second end, the first end of each opening being coupled to a gas supply line and the second end of each opening being couple the contact surface of the chuck.

23. Yoshida et al. teach a chuck comprising a contact surface for holding a back surface of an object; a plurality of openings in the chuck and providing a releasing gas through the plurality of openings in the chuck to the backside of a structure held on the chuck for the purpose of forcibly releasing the structure while keeping the stable attitude of the structure (abstract).

24. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided teach a chuck comprising a contact surface for holding a back surface of an object; a plurality of openings in the chuck and providing a releasing gas through the plurality of openings in the chuck to the backside of a structure held on the chuck in Miyagi et al. and Klebanoff in order to forcibly release the structure while keeping the stable attitude of the structure as taught by Yoshida et al.

Art Unit: 1763

***Conclusion***

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 4996700, 5267292, 6545745, and 6972421; European Patent Application 1 004 937 A2; and Japanese Patent Application 06-151281 each disclose isolation of a mask holding chamber in a lithography apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Karla Moore  
Primary Examiner  
Art Unit 1763  
7 June 2006